

USING THE PATHFINDERS

*These cameras have special lenses and shutters;
here are the complete operating instructions.*

THE PATHFINDER models make a picture in a minute, inside the camera, in the same way as any of the other Polaroid Land cameras. So, all the basic operations described in the front of this book apply to the Pathfinders.

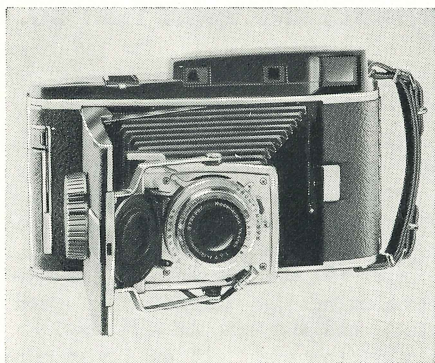
They differ from all other Polaroid Land cameras in the methods used to get correct exposure. The Pathfinders do not have the single wheel exposure control found on the other models. Instead, they have separate, conventional photographic controls which regulate the size of the lens opening (f-numbers) and the shutter speed (fractions of a second) in order to get correct exposure.

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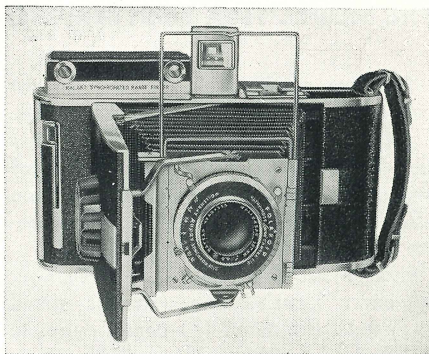
EV 5 to EV 19. The numbers from EV 10 to EV 18 correspond in exposure value to similar numbers on other Polaroid Land camera models. The additional numbers (down to EV 5 and up to EV 19) simply indicate that the Model 110A can handle a greater range of exposure conditions than can the other models.

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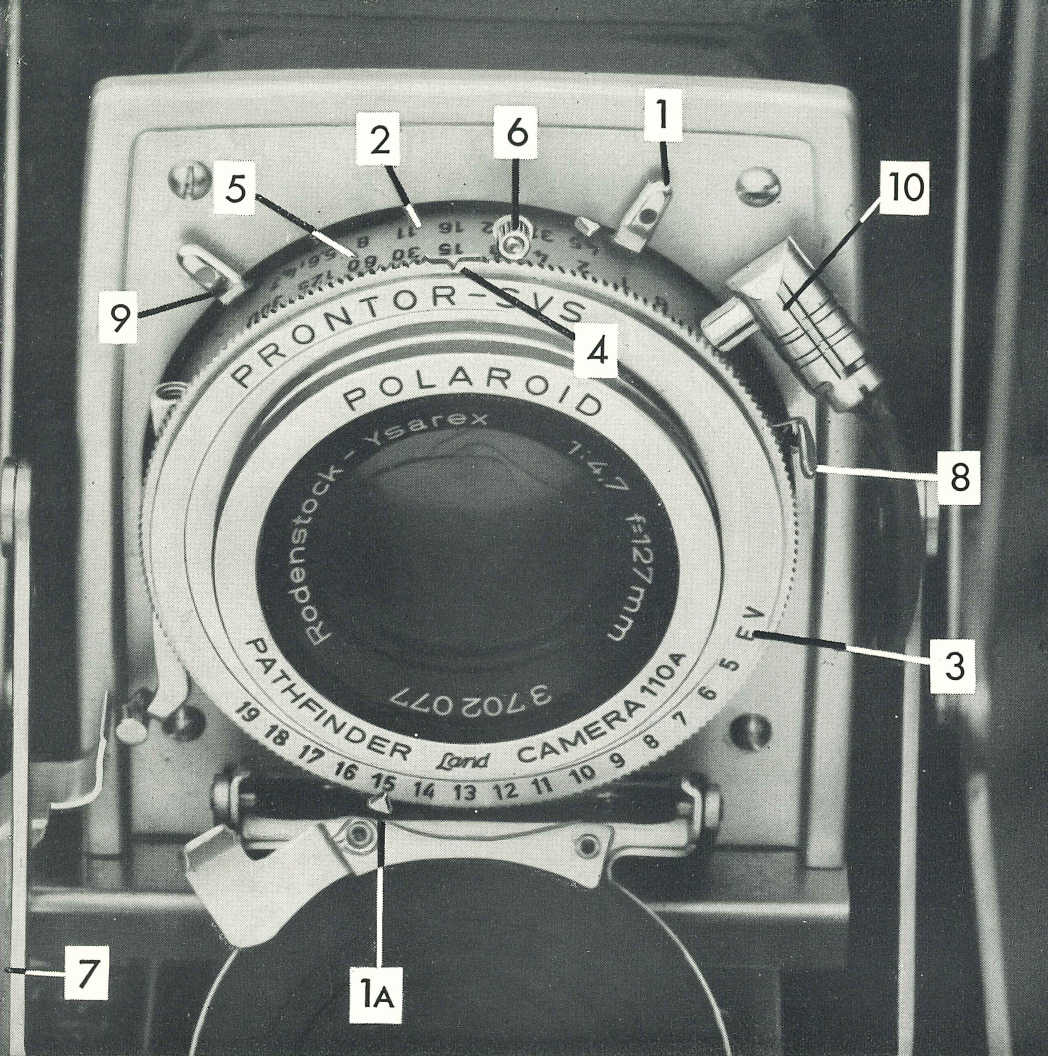
Now let's take a careful look at the controls on the next page and become familiar with what they do.



MODEL 110A: It has integral coupled rangefinder, enclosed parallax-correcting viewfinder. Rodenstock Ysarex 127mm, f/4.7 lens is in Prontor SVS shutter, with speeds from 1 to 1/300 sec., plus self-timer. Camera is calibrated in EV numbers in addition to f-numbers and shutter speeds.



MODEL 110: Discontinued in 1957, this had coupled Kalart rangefinder, folding optical and wire viewfinder. Wollensak Raptar 127mm, f/4.5 lens was in Wollensak shutter with speeds from 1 to 1/400 sec., but without self-timer. Camera had only conventional f-numbers and shutter speeds.



THE MODEL 110A SHUTTER: THE CONTROLS AND WHAT THEY DO.

The size of the lens opening is controlled by lever (1); as you move this, a pointer attached to it moves across the f-number scale (2), and at the same time the EV pointer (1A) on the other end of lever (1), moves the opposite way across the EV scale (3).

Shutter speed is controlled by turning the outer knurled rim (shutter speed ring) until the notch (4) comes opposite the desired setting (in fractions of a second) on the speed scale (5).

The settings now on the shutter can be described in two ways: In conventional photographic terms it is set for $\frac{1}{15}$ sec. at f/45. Using the EV system (explained in the text) it is set to one

of the shutter speed/f-number combinations which are equivalent to EV 15.

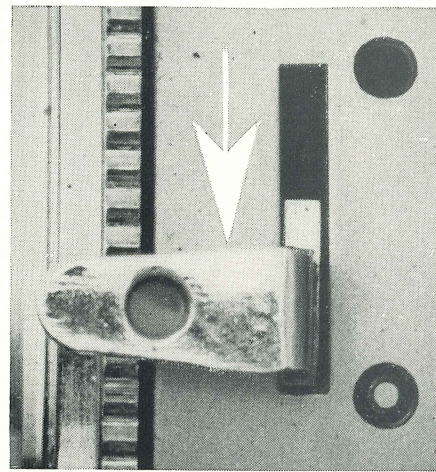
The cocking lever (6) sets the shutter; pressure on plate (7) snaps it.

Lever (8) operates an interlock between the shutter speed ring and lever (1). This is described in the text.

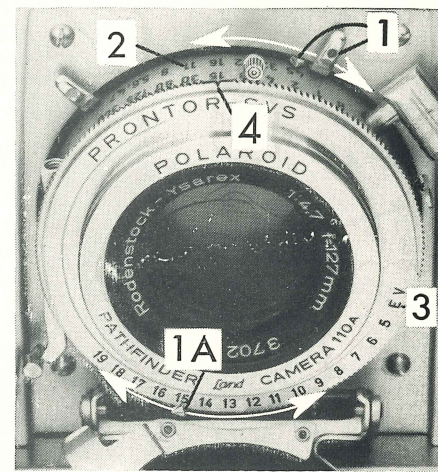
Lever (9) controls the choice of synchronization (for flashbulbs or speed light), and also sets the self-timer.

A push-on plug (10) on a wire connects the flash outlet on the shutter with the camera's accessory shoe, into which the flashgun fits. For use with speed lights, the plug (10) is lifted off the flash outlet and the speed light is connected directly to the shutter.

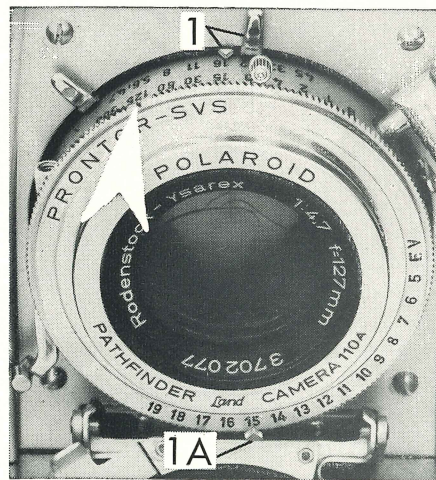
How to use the interlocking EV system on the



1. DISENGAGE THE INTERLOCK: This lever is on the shutter rim. Push in and move it to the dot with the hole. This disengages the mechanism which interlocks the shutter speed and f-number controls, so you can set the camera to the EV number for correct exposure (let's say it's EV 15).



2. SET THE EV NUMBER: Move the lever (1) so the EV pointer (1A) moves across the EV scale (3) to EV 15. If the lever stops before the pointer gets to EV 15, turn the knurled shutter speed ring (outer rim) to bring EV 15 to the pointer.

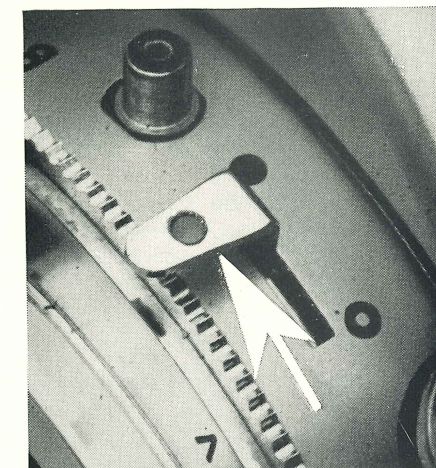


4. CHECK THE SHUTTER SPEED: The camera is set for EV 15, but a glance at photo 2 shows the shutter speed ring (4) at 1/15 sec., too slow for a snapshot (the f-number pointer (1) is at f/45, a very small lens opening). Turn the speed ring to a faster speed (such as 1/125, arrow, above); as you do so the interlock also moves the f-number pointer to f/16, a larger lens opening, to compensate for the faster shutter speed. And the camera is still set at EV 15 (1A) despite the change.

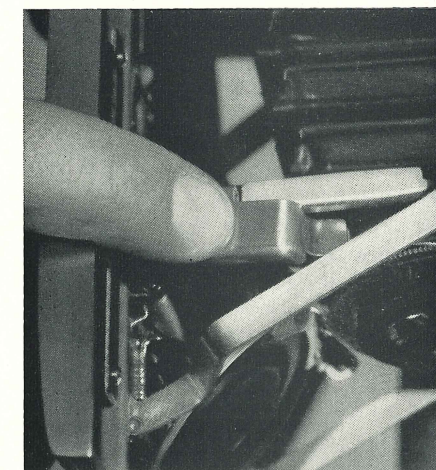


5. COCK THE SHUTTER: In contrast to the self-setting shutters on other Polaroid Land cameras, the Pathfinder shutters must first be cocked to tighten the springs inside. To do this, move the lever in an arc as far as it will go. Now you are ready to snap the picture, as in photo 6. Although it does no harm to leave the shutter cocked for a while, it's a good idea to release it before putting the camera away after use. This also applies to the Model 110.

Model 110A shutter.



3. ENGAGE THE INTERLOCK: Push the lever in and move it to the solid dot. This interlocks the knurled shutter speed ring and the lever which moves both the EV pointer and the f-number pointer. When interlocked, if the ring is moved, the lever also moves along with it the same amount.



6. PRESS THE SHUTTER RELEASE: Squeeze the metal plate in gently; it travels about $\frac{1}{4}$ in. before the shutter snaps. Don't jab at the shutter release; you'll shake the camera. Even though the Model 110A has a shutter capable of very high speeds, you'll probably be using 1/125 sec. for most of your shooting. So, camera shake can still be an important cause of unsharp pictures. Hold the Model 110A (and Model 110) as shown in the chapter *Hold it Steady*.

CORRECT EXPOSURE WITH THE MODEL 110A

There are three quite different methods of using the exposure controls on the Model 110A camera.

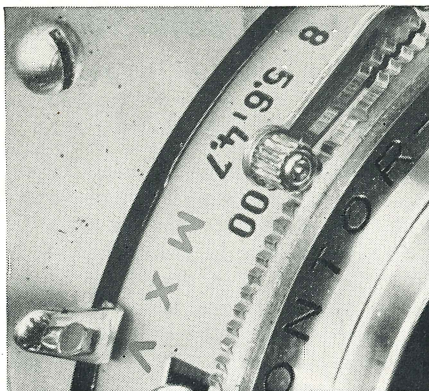
Method 1. It can be operated like any conventional camera with f-numbers and a multi-speed shutter. When so used, the EV interlock must be disengaged, as in photo 1, at left. You should use an exposure meter calibrated in f-numbers and fractional seconds—the Polaroid meters won't do. Unless you have such a meter and are already skilled in the use of it and the exposure controls of a complex conventional camera, this is the least desirable way to use the Model 110A.

Method 2. This makes use of the EV scale, and is recommended as the simplest way to use this camera for outdoor snapshotting where the light conditions are fairly constant. The EV interlock must be disengaged, as in photo 1, at left. You can follow the exposure guide on the film instruction sheet, or use a Polaroid meter to find the EV number which gives correct exposure.

Let's assume that you're outdoors. Set the shutter to a suitable snapshot speed—1/125 is good as it will stop moderate action and reduces the chance of camera shake. It's a moderately bright day and the meter recommends EV 15. So, you just move the EV pointer to EV 15, as shown in photo 2, at left. This automatically adjusts the lens to the proper opening for correct exposure at 1/125 sec. under those light conditions. That's it.

Perhaps it was a very dark day, or you were in deep shade, and the meter recommended EV 10. With the shutter set for 1/125 sec. the EV pointer won't go to EV 10—it stops at EV 11½. That's immediate warning that the shutter speed is unsuitable for the light conditions. So you rotate the shutter speed ring until EV 10 gets under the EV pointer (don't move the pointer accidentally) thereby setting the shutter to a slower speed, more suited to the dim light.

Method 3. This also makes use of the EV scale, but with the interlock engaged. All the steps are shown at left.



SELF-TIMER: To use it, first set shutter to desired speed, cock shutter, then move lever (lower left) to "V" position. When shutter release is pressed, timer in shutter runs for several seconds before shutter snaps. When set for self-timer, shutter automatically goes to "X" type sync, suitable for speed light at any shutter speed, or for any type of flashbulb at 1/30 sec.

It's recommended where the camera is used in a variety of lighting conditions.

Reviewing the interlock

Here is a brief summary of the EV interlock system with reference to the series of photos inside. With the interlock disengaged (photo 1) you set the EV number recommended by your meter (photo 2), and then engage the interlock (photo 3). Check the shutter speed setting. If it's suitable for the type of picture, you're all set to cock the shutter (photo 5) and shoot (photo 6). But if the shutter speed is unsuitable, just turn the speed ring to the desired speed. This automatically sets the lens to the proper opening for correct exposure. The interlock also prevents you from using too fast a shutter speed for a given light

condition, because it will stop the shutter speed ring if you try to turn it beyond the correct exposure setting.

Correct exposure with Model 110

This discontinued model has conventional f-number and shutter speed controls (similar in operation to those on the Model 110A), and for best results it should be used with a similarly calibrated exposure meter. However, a conversion scale on the rangefinder housing (below) makes it possible to use a Polaroid exposure meter or printed exposure guide with the Model 110.

Flash and speed light settings

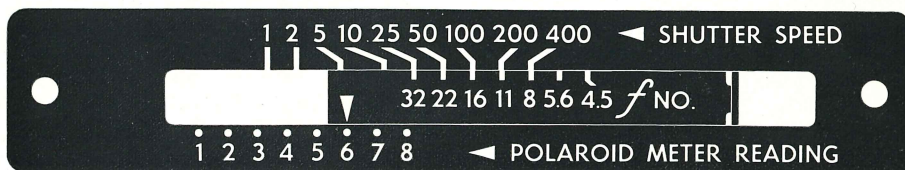
The Model 110A and Model 110 have shutter synchronization adjustable for wink-light, conventional flashbulbs, and speed light. Details are given in *The Wink-Light, Flash, and Speed Light*. For all three types of lighting, the Model 110A should be used with the EV interlock disengaged, as in photo 1.

With the wink-light, set the sync lever to M and use 1/30 or 1/25 sec. With No. 5 or Press 25 flashbulbs (M sync) and speed light (X sync) 1/125 or 1/100 sec. is suitable for most situations.

The direct flash exposure guides on the film instruction sheets are made up with EV numbers. You can use these with the Model 110A (but not the Model 110) as in Method 2.

The bounce flash exposure guide (see *Flash*) is made up with both EV numbers and f-numbers. With the Model 110A use either set of numbers; with the Model 110 use the f-numbers.

With both cameras, flash and speed light exposures can be computed by the guide number system.



FOR MODEL 110 USERS: Scale on rangefinder housing converts Polaroid Exposure Meter reading to equivalent conventional f-number and shutter speed combinations. Simply set center arrow opposite Polaroid meter reading number, then take your choice of lens and shutter settings.

This is a reprint of one of the chapters in *PICTURES IN A MINUTE* by John Wolbarst of *MODERN PHOTOGRAPHY*. The book is now out of print.

Polaroid®

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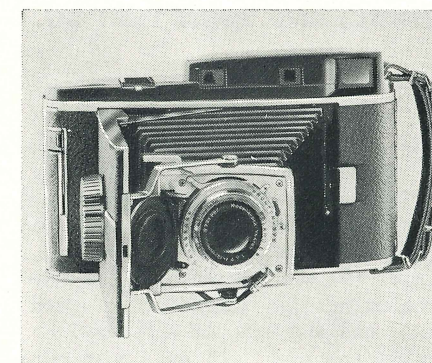
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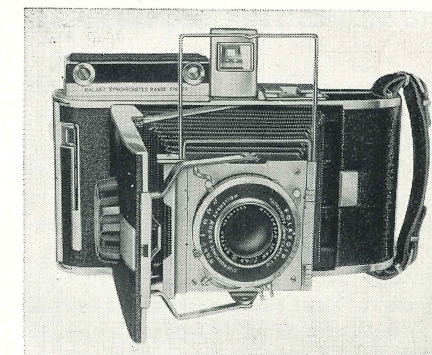
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